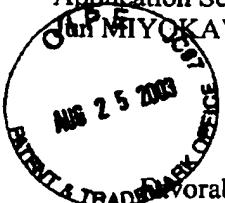


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Okin MIYOKAWA, et al.



REMARKS

favorable consideration of this application in light of the following discussion is respectfully requested.

Claims 1-20 are presently active in this case.

The Applicants wish to thank Examiner Wai-Sing Louie for the courtesies extended to Applicants' representative, Christopher Ward, during the personal interview conducted on July 9, 2003, in parent application Ser. No. 09/867,401. During the interview, Examiner Louie indicated that he would reconsider the claims in parent application Ser. No. 09/867,401, which were identical to the claims pending in the present application, upon submission of a Request For Reconsideration setting forth the distinctions between the cited references and the claims.

Claims 1-20 were provisionally rejected in parent application Ser. No. 09/867,401 under 35 U.S.C. 101 as claiming the same invention as that of Claims 1-42 of copending Application Ser. No. 09/867,402. The Applicants traverse this rejection. The MPEP cites caselaw that indicates that the "same invention" means identical subject matter. (See MPEP 804 II. A.) The Applicants respectfully submit that the claims of the present invention do not define the same invention as recited in the claims of copending Application Ser. No. 09/867,402. For example, Claim 1 of the present application recites *a base wherein a portion of the base is made of a material having a first thermal expansion coefficient and a bottom plate that is constructed of a material having a second thermal expansion coefficient, and wherein the first thermal expansion coefficient is substantially equal to the second thermal expansion coefficient*. Furthermore, Claim 12 of the present application recites *a bottom plate that is made of material having a linear expansion coefficient that substantially equal to*

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*a linear expansion coefficient of a laser diode mounting member.* Such recitations are not present in any of the claims of copending Application Ser. No. 09/867,402. Thus, the Applicants respectfully submit that the claims of the present invention do not recite the "same invention" as copending Application Ser. No. 09/867,402.

Furthermore, the Applicants submit that the independent claims of copending Application Ser. No. 09/867,402 recite features that are not present in the claims of the present application. For example, Claims 1 and 23 of copending Application Ser. No. 09/867,402 recite a temperature control device thermally connected to a laser diode by a laser diode mounting member, where the optical system mounting member is not in contact with the temperature control device. Claims 4 and 24 recite a laser diode mounting member that is formed of material having a linear expansion coefficient in a range between a linear expansion coefficient of an optical system mounting member and a linear expansion coefficient of a first plate member of a thermo module. Claim 5 recites an optical system mounting member that has a thermal conductivity lower than a thermal conductivity of a laser diode mounting member and a first plate member of a thermo module. Claims 18 and 38 recite a laser diode mounting member that is directly fixed on a bottom plate. Claims 20 and 40 recite a laser diode mounting member that is made of a material having a thermal conductivity of at least 150 W/mK, and an optical system mounting member that is made of a material having a thermal conductivity of at most 50 W/mK. Claims 21 and 41 recite an optical system mounting member that is made of a material having a Young's modulus of at least  $15 \times 10^3$  kg/mm<sup>2</sup>. Claim 32 recites a fastening means mounting member being mounted to a laser diode mounting member at a position other than a laser diode mounting region.

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Such recitations are not present in any of the claims of the present application. Thus, the Applicants respectfully submit that the claims of the present invention do not recite the "same invention" as copending Application Ser. No. 09/867,402.

Claims 1-20 were rejected in parent application Ser. No. 09/867,401 under 35 U.S.C. 103(a) as being unpatentable over Janssen et al. (U.S. Patent No. 5,570,444) in view of Yoshino (U.S. Patent No. 5,924,290). For the reasons discussed below, the Applicants traverse the obviousness rejection.

The Applicant submits that a *prima facie* case of obviousness cannot be established in the present case because there is no suggestion or motivation to combine the references to arrive at the present invention. (See MPEP 2143.)

Claim 1 of the present application recites a laser diode module comprising a laser diode, an optical system including an optical fiber and a lens portion, a base configured to support the laser diode and at least a portion of the optical system, and a bottom plate configured to support the laser diode, the optical system, and the base. A portion of the base is made of a material having a first thermal expansion coefficient and the bottom plate is constructed of a material having a second thermal expansion coefficient, and the first thermal expansion coefficient is substantially equal to the second thermal expansion coefficient.

Claim 12 of the present application advantageously recites a semiconductor laser diode module comprising a laser diode, an optical system including an optical fiber and a lens portion, a fastening means for supporting at least a portion of the optical system, a base configured to support the fastening means and the laser diode, and a bottom plate configured to support the laser diode, the optical system, the fastening means, and the base. The base includes a laser diode mounting member and a fastening means mounting member. The laser

diode mounting member has a laser diode mounting region configured to mount the laser diode. The fastening means mounting member is mounted to the laser diode mounting member at a position other than the laser diode mounting region. The bottom plate is made of material having a linear expansion coefficient that is substantially equal to a linear expansion coefficient of the laser diode mounting member.

The Applicants respectfully submit that the Janssen et al. reference does not disclose or suggest the base recited in Claims 1 and 12. The Official Action initially cites blocks (9) as the base and then later cites substrate (2) as the base. The Applicants submit that the blocks (9) cannot be cited as the base, since the base defined in Claims 1 and 12 of the present application is configured to support the laser diode and at least a portion of the optical system or the fastening means. However, the blocks (9) are not configured to support the laser (3) of the Janssen et al. reference in any manner. The Applicants further submit that substrate (2) of the Janssen et al. reference should not be cited for the teaching of a base, since then no feature exists for a teaching of the bottom plate, which is recited as a separate feature in Claims 1 and 12 of the present application.

The Yoshino reference is cited for the teaching of a base (carrier 3) configured to support the laser diode and at least a portion of the optical system. However, the Applicants submit that the Yoshino reference should not be combined with the teachings of the Janssen et al. reference since the modification of the Janssen et al. reference to include the carrier (3) of the Yoshino reference would change the principle of operation of the invention in the Janssen et al. reference and/or render the modified structure of the Janssen et al. reference unsatisfactory for its intended purpose. (See MPEP 2143.01.) For example, if the blocks (9) of the Janssen et al. reference were modified to represent the base of Claims 1 and 12 of the

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present application (i.e., if the blocks (9) were extended to support the laser (3)), then the resulting structure would be insufficient to dissipate heat from the laser (3) to the heat sink (1) due to the imposition of the expanded KOVAR blocks (9). Alternatively, if the diamond heat sink (1) of the Janssen et al. reference was modified to represent the base of Claims 1 and 12 of the present application (i.e., if the heat sink (1) was extended to support the blocks (9)), then the resulting structure would be susceptible to stresses resulting from the difference in thermal expansion coefficients between the diamond heat sink (1) and the KOVAR blocks (9) and KOVAR substrate (2) of the Janssen et al. reference.

Accordingly, the Applicants submit that the Yoshino reference should not be combined with the teachings of the Janssen et al. reference to arrive at the present invention. The Applicants respectfully submit that such a rejection would be based on the improper application of hindsight considerations. It is well settled that it is impermissible simply to engage in hindsight reconstruction of the claimed invention, using Applicant's structure as a template and selecting elements from the references to fill in the gaps. *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991). Recognizing, after the fact, that a modification of the prior art would provide an improvement or advantage, without suggestion thereof by the prior art, rather than dictating a conclusion of obviousness, is an indication of improper application of hindsight considerations. Simplicity and hindsight are not proper criteria for resolving obviousness. *In re Warner*, 397 F.2d 1011, 154 USPQ 173 (CCPA 1967).

Accordingly, the Applicants respectfully submit that Claims 1 and 12 are allowable.

Claims 2-11 are considered allowable for the reasons advanced for Claim 1 from which they depend. These claims are further considered allowable as they recite other

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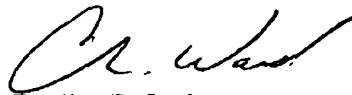
features of the invention that are neither disclosed, taught, nor suggested by the references when those features are considered within the context of Claim 1.

Claims 13-20 are considered allowable for the reasons advanced for Claim 12 from which they depend. These claims are further considered allowable as they recite other features of the invention that are neither disclosed, taught, nor suggested by the references when those features are considered within the context of Claim 12.

Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable consideration of this application is therefore requested.

Respectfully Submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.



Bradley D. Lytle  
Registration No. 40,073  
Attorney of Record

Christopher D. Ward  
Registration No. 41,367



22850

Customer Number 22850  
Tel. (703) 413-3000  
Fax. (703) 413-2220  
(OSMMN 10/01)

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